

Northern Ireland's Creative Meshworks: Tracing Ad Hoc Knowledge Exchange

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Abstract—This paper draws on Ingold's [1] idea of "meshworks" to reveal the entanglements that shape the exchange of knowledge between arts and humanities researchers and the creative sector in Northern Ireland. It offers a view of the "interwoven lines of growth and movement" that affect the passing of ideas between practitioners and academics arguing that collaborations are ad hoc and encourage new forms of creativity and problem-solving. We do not offer a visualisation of the places and ways in which Northern Ireland's creative sector connects and collaborates. Rather, we identify the human and non-human assemblies that generate, facilitate, and give boundaries to knowledge exchange processes, and analyse these dynamics in the context of wireless cultures.

Keywords—*knowledge exchange; meshworks; wirelessness; Northern Ireland; creative industries; creative arts; academic impact*

I. INTRODUCTION

Emergent, peer-to-peer organisational forms such as co-working spaces and social media are reconfiguring the dynamics of creative collaboration in Northern Ireland. These platforms for making and connecting are delivering new opportunities for creative practitioners and researchers to have an impact on one other. To situate these dynamics of influence as ad hoc is to argue that collaborations happen as needs arise or when opportunities appear. These are not new catalysts for collective work, however the ways in which these activities are performed are changing. By using the term meshworks to describe the dynamics of the creative sector in Northern Ireland, textures, fissures, bridges, lines, and nodes can be traced and retraced to better understand the forces shaping collaboration.

Our use of the term knowledge exchange refers to collaborations between researchers and practitioners, who in many cases have different evaluative frameworks. They may share interests and be working towards similar goals, but the ways in which things are measured and therefore valued and evaluated, is different. So what are the environmental and social conditions that help multidisciplinary meshworks apply interdisciplinary methods? And how might these interactions diversify working methods and creative outcomes? These questions are addressed in the paper's investigation of two knowledge exchange projects: Belfast Makerday, an event that

facilitated practices of collaboration through design thinking and rapid prototyping; and, #opencurriculum, a software project for supporting cooperative work around curriculum development.

To support the use of the conceptual frame of the meshwork we discuss the structures and dynamics of wireless mesh networking technology. This method of digital, wireless, information routing is 'distributed', meaning it is not centrally organised. Network nodes connect to each other in an ad hoc fashion based on criteria such as signal strength and physical proximity. The idea of "wirelessness" [2] as an emergent social condition is also used to help illustrate meshwork dynamics, in that human actors are becoming more attuned to changes in information infrastructures and wireless technologies are affecting how people arrive, depart, and inhabit places. These analogies help concretise the argument for the promotion of the seemingly messy, ad hoc manifestations of connection that are the source of so much productive creativity in Northern Ireland.

II. CREATIVE KNOWLEDGE EXCHANGE IN THE WIRELESS MOMENT

Existing scholarly work articulates particular promises and practices of creative knowledge exchange, for example: the Brighton Fuse report [3] proposes the frame of "superfusion" to describe the individuals and businesses that are likely to do well as actors in the creative economy; while REACT Hub's [4] depiction of "sustainable networks" offers a valuable framework for understanding the linkages between peers, advisors, funders, investors, colleagues, institutions, and opportunities. The literature is extensive, but does not fully capture how wireless cultures influence emergent dynamics in knowledge exchange projects in the United Kingdom. To address this gap, we seek out the conditions of wirelessness to better understand the conditions of knowledge exchange. This exercise helps excavate the terrain between the promise of knowledge exchange and the conditions of knowledge exchange, to offer new conceptual handles for arts and humanities researchers and creative practitioners to pursue projects with each other.

The conditions under which the exchange of knowledge occurs are changing. Much has been written about the role of socio-technical systems in this equation, specifically the ways in which they are enabling new organisational forms: from online communities [5, 6, 7, 8], to economic systems [9,10], to activist networks [11,12]. In the creative and cultural industries, the blurring of boundaries between makers and users “challenges consensual notions of what it means to work” in this field [13]. But when we focus specifically on the exchange of knowledge among creative researchers and creative practitioners, we see wireless technologies becoming the catalysts for new modes of practice and ways of connecting. We propose that the lack of investigation in to this area is due to the speed at which wireless technologies have become ubiquitous. This line of inquiry is supported by William’s [14] provocation that people have become so used to hearing proclamations about how new technologies usher in societal changes – such as the steam engine, the automobile, and the atomic bomb – that the specifics of these changes become obscured.

We arrived at “wirelessness” [2] as a lens for the analysis of knowledge exchange via a series of conceptual bridges. The ad hoc dynamics supporting Northern Ireland’s creative sector saw us refer to it as a series of meshworks [1] to emphasise the entanglements that shape its activities. This conceptual frame led us to think about the structures and dynamics of mesh networking, wireless networks that self-organise in an ad hoc fashion. In a mesh network, if one node goes down the rest of the nodes can still communicate with each other, directly or through one or more intermediate nodes. The material structures of mesh networks offered us a reference point for imagining Northern Ireland’s ad hoc organisational forms. From this point, the application of wirelessness [2] – a social condition of wireless cultures – became a line of inquiry.

The term creative meshworks aims to encapsulate the entanglements of academic and non-academic structures, dynamics, materials, and people that contribute to and affect creative fields. We have chosen this term to describe how the flows and movements that give this sector its momentum are difficult to pin down, visualise, or quantify. This is due to the flexible boundaries of creative practices, and how Northern Ireland is situated geopolitically – the country’s legislative structures, economic systems, infrastructures, and cultures are all influenced by its position in the United Kingdom as well as its proximity to and links with the Republic of Ireland. Meshworks is also employed as a term to move beyond the rhetoric of clusters and hubs, to emphasise the new organisational forms underpinning the activities performed by creative practitioners and researchers in Northern Ireland. These activities are akin to Toffler’s [15] “adhocracies” proposal, where he predicted constantly changing “kinetic organisations” would figure heavily in the future, eroding the power of established bureaucratic systems.

The emergent configurations of adhoc organising in Northern Ireland are, in most cases, manifesting due to free software platforms and wireless technologies. Online communities, crowdfunding initiatives, and electronic ticketing applications are just a few examples of systems that are helping to support both formal and informal exchanges. The practice of adhoc peer-to-peer organising is also thriving in the various artist run spaces, co-working spaces, and maker spaces. The new configurations of exchange being enabled by these technologies happen as needs arise or when opportunities appear. The following case studies will offer evidence to support this claim, and offer new sightlines for understanding how knowledge exchange projects can be implemented.

III. CASE STUDIES: MAKERDAY BELFAST AND #OPENCURRICULUM

Makerday Belfast was a creative collaborative design weekend focusing on physical and digital making. The weekend was developed by Michelle Douglas (designer and PhD candidate) and supported by product designer Stephen McGilloway and university lecturer Richard McElveen. Their rationale for the event was to explore collaborative making as a design process. The event encouraged a variety of creative practitioners and researchers to join industry experts from the UK and Ireland to respond to themes over 24 hours. These provocative design briefs were simply key words and phrases such as ‘elderly,’ ‘rural,’ and ‘Northern Ireland.’ Four teams utilised soft modelling materials and digital fabrication tools to co-design imaginative, working prototypes. There were a variety of resources on offer for teams to experiment with: a box of Arduino and Galileo microcontrollers had been donated by Belfast’s Farset Labs makerspace, a 3D printer was on loan from the Belfast FabLab, and two FabLab STEAM officers (Science, Technology, Engineering, Arts, Maths) were on hand to help the teams perform rapid prototyping techniques. There was also plenty of sticky tape, bits of cardboard, bags of cable ties, and a wireless network. At the end of the weekend the teams showcased their design solutions, including branding design, hardware prototypes, and fully functional software. One group had even posted the source code of their smart phone app for reuse on Github – a web-based platform for managing and sharing software source code.

Makerday Belfast enabled practitioners and researchers who had known each other for a couple of hours, to successfully self-organise around topics to develop working prototypes. Processes were ad hoc, makeshift, and cobbled together to communicate or illustrate an idea. The exchange of knowledge was also distributed as designers incorporated findings from open access academic papers in to their design rationales.

#opencurriculum is a software project for supporting cooperative work around curriculum development. It was proposed and implemented by Chris Murphy, a multidisciplinary design educator at Ulster University, in collaboration with Little Thunder, a Belfast-based web development agency. They set themselves the task of using GitHub – the software platform previously mentioned – to

facilitate the co-creation and sharing of educational content. They were drawn to GitHub as it has unique features that track content changes between users, known as ‘version control’. GitHub was already being used for activities other than code sharing, such as collaborative music composition and as a repository for open source legal documents [16]. As the Github interface is designed for code sharing, not copy sharing, the #opencurriculum team set out to build a user-friendly web interface – that utilised GitHub’s version control features – for open, collaborative curriculum development. The team are still working on the #opencurriculum interface, but as a result of their tinkering, they now use the Github platform as a content management system for their Interaction Design course website.

The knowledge exchange processes performed by those involved in the #opencurriculum project were distributed across digital networks, geographic borders, and design disciplines. Processes of self-organisation were often mediated through Twitter interactions. When the team struck a problem they consulted their Twitter networks, and often received answers after a few minutes. In response to one problem the #opencurriculum team had, a 15 year old web developer from England wrote a blog post explaining a work around. Another developer in their Twitter network then wrote some code for the team, because he wanted to make a contribution to the project.

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IV. WIRELESSNESS: A CONDITION OF KNOWLEDGE EXCHANGE

The environmental and social conditions that help creative meshworks apply diverse methods can be better understood through the lens of wirelessness. This proposition stems from the premise that wireless cultures influence the dynamics of knowledge exchange projects in the United Kingdom. Mackenzie’s wirelessness proposal describes a social condition that emphasises entanglements with things, gadgets, infrastructures, and services [2]. It produces disordered, ad hoc flows, but helps us negotiate new contexts and different scales by stabilising our transitions through location specific information and familiar rituals. But in its most distilled form, wirelessness is the promise of ubiquitous network connectivity.

The promise of wireless connectivity, which helps us transition, bridge contexts, and interface at different scales, is similar to the promise of knowledge exchange in the arts and humanities. We want tools to bridge divides between theory and practice, and between practitioners and researchers with different evaluative frameworks. We want to negotiate the different scales of large bureaucracies and solo creatives, of local challenges and global opportunities; and we want all of this to happen in a relatively stable environment.

The social condition of wirelessness also captures the inevitable disappointments of failing to connect – when wireless networks do not meet our expectations we can be left deflated, angry, or vulnerable. The same applies to knowledge exchange initiatives. When expectations are not iteratively managed, miscommunications and misunderstandings can lead to the breaking down of connections. The somewhat unreliable flows of wireless connectivity also help situate knowledge exchange as a precarious activity, particularly with regards to non-academic partners operating without institutional support.

V. CONCLUSION

Creative knowledge exchange in Northern Ireland is the productive connection of researchers and practitioners. It is a social pursuit that requires certain conditions to deliver the types of multidisciplinary collaborations it promises. Our case studies offered traces of self-organising, creative meshworks performing new modes of knowledge exchange, and our proposal that wirelessness is a condition of knowledge exchange situated these activities among wireless cultures. This approach offers new sightlines for knowledge exchange projects by emphasising how wireless technologies are not only enabling new methods of exchange, but also shifting the ways in which we form expectations around connecting to people and services.

Although wireless networks seem structureless, they are an entanglement of aerials, towers, routers, binary packets, and spectrum politics. Knowledge exchange projects might also be misunderstood as open platforms for sharing, but in reality they are shaped by a myriad of structures and hierarchies. Our study has highlighted the need to better understand how to negotiate these dynamics through investigating what constitutes stability in knowledge exchange projects. Further research in this area combined with the framing of knowledge exchange projects as a practice of connectivity, will help future collaborations meet expectations, negotiate boundaries, and deliver different types of value to academic and non-academic actors.

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